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OCCUPATIONAL ASPIRATIONS OF NORTHERN SASKATCHEWAN STUDENTS*

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Introduction

One of the major steps every young person takes is going to work. There may be little or no actual choice on his part. His economic status may decide how he will earn a living; his society may limit his choice of occupation through racial discrimination. His intellectual ability, level of education and training, and his physical attributes—all such factors will influence his job history and work prospects.

What aspirations and expectations do young Northern students disclose when asked, "What do you want to be when you grow up?"

Kurt Lewin wrote as follows about levels of aspiration.

A successful individual typically sets his next goal somewhat, but not too much above his last achievement. In this way he steadily raises his level of aspiration. Although in the long-run he is guided by his ideal goal, which may be rather high, nevertheless his real goal for the next step is kept realistically close to his present position. The unsuccessful individual, on the other hand, tends to show one of two reactions: he sets his goal very low, frequently below his past achievement—that is, he becomes intimidated and gives up reaching out toward higher goals—or he sets his goal far above his ability. This latter conduct is rather common. Sometimes the result is a gesturelike keeping up of high goals without serious striving; it may at other times mean that the individual is following blindly his ideal goal, losing sight of what in the present situation is possible. To develop and to maintain high goals and, at the same time, to keep the plan for the next action realistically within the limits of what is possible, seems to be one of the basic objectives for a criterion of high morale.¹

Another writer, F. La Violette states that each member of a minority, as part of his struggle for identity, must make a crucial effort to control his own fate. This struggle—

Will be marked by the hopes of younger people for new jobs, for places in the professions, or for better conditions in logging and in the catching and packing of fish. Questions of schools, scholarships, and undeveloped abilities are peppered through the records of the Joint Committee . . . This struggle for identity involves a conception of educational opportunities and satisfying occupational choices.²

The Research Design

Data Collection. Letters were sent out to all teachers or principals of Northern Saskatchewan schools who had students in

*This study was made financially possible by The Centre for Community Studies, University of Saskatchewan and the cooperation of Dr. A. K. Davis, Senior Research Sociologist. Miss Muriel Case assisted in data tabulation. However, the writer alone accepts the responsibility for all interpretations made and conclusions drawn.

1 In Krech and Crutchfield, *Theory and Problems in Social Psychology*, N.Y., 1948, p. 410.

2 *The Struggle for Survival*, Toronto, p. 185.

Grade VII and above. This included Creighton and Island Falls, but not Uranium City. The teachers were asked to have each student write an essay on the subject, "What I want to be when I grow up." The administration of the assignment was spelled out briefly to emphasize the value of getting a spontaneous response from the child. The letter said in part:

... the children's own, free, undirected responses, not anything suggested or prompted by the teacher. The conventional essay, saying all the 'right' things, written in painstaking best English, would be almost valueless for our purposes.

A suggestion was made that the essay should take from 30 to 60 minutes for completion. The teachers were assured that the essays would not be judged for academic achievement or for evaluating teacher competence.

Each essay was to be accompanied by additional information: (a) the name of the school, (b) the student's name, (c) grade, (d) age, (e) sex, and (f) ethnicity.

The Sample Population. The project aimed for a total population of all school children in Grades VII and above of the selected schools. With the co-operation of the Northern teachers, 266 essays were received—representing 71 percent of the senior elementary students in school in the Northern Administrative Areas, excluding Uranium City and Island Falls. Seven essays from the Gunnar school were rejected because of inadequate identifying information regarding age, grade and sex. We believe we obtained an adequate cross-section of senior students in Northern Saskatchewan schools.

Data Analysis. A content analysis of the essays was undertaken. No previous studies of this nature have been conducted with minority groups, to the writer's knowledge. Therefore, it was necessary to construct our own system of analysis. The study proceeded within the definition of content analysis set by Berelson: "... a research technique for the objective, systematic, and quantitative description of the manifest content of communication."³

The essays were read through first to establish the general themes which appear. An analysis sheet, in the form of a check-list, was then constructed, and the essays were re-read carefully in random order. At the conclusion of this step, six more categories were added, and the essays were read for the third time. The check-lists were then coded and processed on punched cards for IBM equipment. The coding permits quick references to any single essay, thus facilitating the location of appropriate quotations illustrating various points used below. In the final preparation of this report, the essays were read in their entirety for the fourth time. This

3 *Content Analysis in Communication Research*, Glencoe, 1952, p. 18.

was an attempt to keep in sight the unique content and character of the essays, in order to avoid becoming completely involved with sheer quantification.

The Findings

Judged by the great discrepancy between our respondents' occupational preferences and the actual occupational distribution of the employed Northern population, Northern students have somewhat unrealistic expectations regarding their future jobs. If a Northland community were solely inhabited by these students, each in the job of his choice, we would have 170 professional people. There would be one doctor for every 45 people, one nurse for every two people, nine civil engineers and 34 teachers. Two storekeepers would offer competition to each other, and two lawyers would be available for legal contests. Transportation would be a major

TABLE I
COMBINED FIRST THREE OCCUPATIONAL CHOICES OF
266 STUDENTS ATTENDING NORTHERN SCHOOLS—BY SEX
(Grades VII-X, inclusive)

Occupational Category	Occupational Choices					
	Boys		Girls		Total	
	No.	Percent	No.	Percent	No.	Percent
(1) Managerial	2		0		2	
Professional	44		112		156	
Theological	2		8		10	
Sub-total	48	32	120	64	168	50
(2) Clerical	0		17		17	
Commercial	0		6		6	
Service	0		17		17	
Sub-total	0	0	40	21	40	12
(3) Transportation	35	23	15	8	51	15
(4) Agriculture	4		1		5	
Fishing-Trapping	7		1		8	
Sub-total	11	7	2	1	13	4
(5) Mining	5		0		5	
Manufacturing-Mechanics	20		1		21	
Sub-total	25	17	1	1	26	8
(6) Armed Services	6		0		6	
Law Enforcement	14		3		17	
Sub-total	20	13	3	2	23	7
(7) Professional Sport	9		0		9	
Arts	1		5		6	
Sub-total	10	7	5	3	15	4
GRAND TOTAL	149	99	186	100	336	100

industry, with 140 people employed to transport the members of the community, mostly by air. The present-day basis of the Northern economy, namely fishing, trapping, and mining would be represented by six fishermen-trappers, and five geologist-prospectors. Four conservation officers, three forest rangers and a police of four would constitute the law and policy enforcement body of the community. Five professional hockey and baseball players and one professional singer would provide the community's entertainment. There would be no caretakers, community maintenance workers, no guides, fish packers, or lumber jacks.

From the foregoing, we can surmise that many students must revise their choices. They will need information about occupations which they are not seriously considering at the present time, and also they will require information about opportunities for employment, both in the North and "outside."

Occupational Choices of Boys and Girls: We shall now turn directly to the data. Table I presents the occupational choices classified by sex. If a student gave a second or third choice of an occupation, it is included in this tabulation.

The usual, obvious sex differences in occupational choice appear. Indeed, Table I is an illustration of occupational sex-typing in North America society. Girls choosing professional careers are chiefly interested in nursing and teaching; the boys are chiefly interested in engineering, teaching, medicine, and research—in that order. In the second group of occupations, the girls wish to be stenographers, hairdressers, and store clerks; but no boys chose clerical, commercial or service careers. Over one-fifth of the boys chose careers in transportation—most of these wish to be airplane pilots (bush, airline, and jet). The girls in this category wish to be stewardesses. In the fourth group, the boys favor mechanics over fishing, trapping and farming. The one girl who wants to be a car mechanic confides, "That has been my ambition ever since the day I first stepped into a garage . . . The laughing kids that think I'm crazy will not change my mind. I may be a girl, but girls can be just as good as boys." Twenty boys chose the armed services and law enforcement agencies, and nine chose professional sports. As many boys want to be professional hockey players as R.C.M.P. officers.

Apparently the students are choosing occupations within their field of vicarious experiences. They aim at those roles with relatively high community status, and, in some cases, with an aura of glamour. Some base their choice upon information gleaned from friends, books, and motion pictures. In 114 essays (42.9 percent), specific reference was made to the need for further education to attain their goals. It is noteworthy that not a single student aspired

to be a Hollywood or TV star, a millionaire, or rodeo cowboy. Only one thought he would like to be an astronaut. In this respect they are not unrealistic, and have moved away from childish ambitions.

The single student who aspires to outer space also sees himself in an organization which can offer too much routine and security. He is prepared to pay something for some "life-taking risks." Thus states a 14-year-old boy in Grade VIII:

If I am in the Airforce I would like to be one of the first men to the moon or test pilot because I don't want a dull life which all you do is go to the plane, check it, take off, land and leave it. I want something exciting which consists of continuous danger, hard work, and my two-bits worth of life-risking tasks."

Two general impressions are gained from the essays.

- (1) The majority of students are selecting occupations which require educational facilities not available to the Northern student. One 15-year-old Métis student in Grade X states, "... Many here in Cumberland have wished to stay on in school but have quit after finishing Grade IX. The only reason probably being that there is no high school here and none close enough to go to." This suggests that few of these students will attain their objectives. Few of the Métis-Indian girls will become nurses, teachers, stenographers, or stewardesses. The boys will have a better chance, but not many become doctors, engineers, pilots, or research scientists under present conditions.
- (2) The students are selecting careers on a basis of little knowledge of the training or educational requirements for the career, and very little information about the actual job requirements. A typical statement is made by a 16-year-old Métis student in Grade X. "Every since I can remember, I've wanted to be a nurse. Maybe it was the starchy white uniforms I've seen them wear or maybe it was just seeing what they do to help people. The reason for my decision is because I would like to see the world, since the farthest south I've been is Prince Albert."

Comparative Occupational Choices of White and Métis-Indian Girls. Table II shows the combined first three occupational choices of the girls who wrote essays for us. Over half of the choices are for nursing and teaching. No ethnic differences appear in the preferences for those two occupations.

Those occupations which attract mainly White girls are clearly higher in status, income and educational requirements than those which attract Métis-Indian girls. But let us underline the fact that many Métis-Indian girls want to be teachers and nurses. This shows an awareness of, and orientation toward, upward mobility in White society. White girls display more awareness, and higher

TABLE II
OCCUPATIONAL CHOICES OF 146 NORTHERN GIRL
STUDENTS—BY ETHNICITY

	White		Métis-Indian		Total	
	First Three Choices	First Choice	First Three Choices	First Choice	Combined Choice	Percent
Nurses	36	27	34	31	70	35.0
Teachers	19	11	17	14	36	18.0
Office Stenos	11	5	6	6	17	8.5
Airline Stewardesses...	8	5	5	4	13	6.5
Hairdressers, Nurses						
Aides	4	2	7	6	11	5.5
Missionaries, Nuns	2	2	5	2	7	3.5
Store Clerks	2	2	4	4	6	3.0
Lab Technicians,						
Dental Assistants...	5	3	1	1	6	3.0
Doctors, Scientists,						
Social Workers	5	4	1	1	6	3.0
Artists	1	1	2	0	3	1.5
Policewomen	1	1	2	2	3	1.5
Entertainers	1	0	1	0	2	1.0
Pilots	0	0	2	2	2	1.0
Farmers	1	1	0	0	1	.5
Trappers	0	0	1	1	1	.5
Mechanics	1	1	0	0	1	.5
Others	8	5	6	2	14	7.0
	105	70	94	75	199	99.5
Number of						
Respondents	70		76		146	

In what occupational preferences do ethnic differences show up? White girls clearly outnumber Métis-Indian girls in aspiring to the following occupations:

- doctors, scientists, social works
- lab technicians, dental assistants
- airline stewardesses
- office stenos

On the other hand, Métis-Indian girls lean more strongly than White girls to certain other occupations:

- missionaries, nuns
- store clerks
- hairdressers, nurses aides

aspirations. But Table I indicates that a majority of Métis-Indian girls are clearly looking upward toward White middle-class occupations for their future.

Religious callings appeal more strongly to Métis-Indian girls. The two groups aspire in equal proportions only to nursing and teaching—these professions, however, draw by far the largest number of preferences. Other occupational choices are too sparsely scattered among various types of work to permit any ethnic comparisons.

Thus far, we have been discussing the combined first three occupational choices. Because it is not always clear in the essays which is the first choice, or whether the indicated first choice reflects a definite inclination on the part of the student—it has seemed best to base our analysis on the combined preferences. Not the least important advantage this affords is the larger number of cases. However, this decision is debatable. We have therefore shown the first choice alone in Table II. How do first choices differ from the combined choices?

The list of occupations wherein differences in preferences appear along ethnic lines becomes shorter. White girls choose the following occupations more frequently than do Métis-Indian girls:

- doctors: scientists, social workers
- lab technicians, dental assistants

Métis-Indian girls are predominant among those preferring to become—

- store clerks
- hairdressers, nurses aides

In Canadian society it is commonplace for young people at one time or another to want to be doctors when they grow up. Is it not surprising then, that—as yet—not one of our 76 Métis-Indian girl students say she wants to be a doctor? Is there any implication for the public image of social workers among the Northern Métis and Indian people that not one Métis or Indian girl expresses any desire to be a social worker? Only one Métis girl says she would like to be a scientist. Even the world-be lab technicians are all White girls. The future nurses aides, on the other hand, are all Métis-Indians. We believe that these occupational preferences reflect all too clearly the class cleavage—and the corresponding differences in life prospects—between the two ethnic groups. Aspirations toward higher occupational status—in the White economic world—have emerged among Métis-Indian young people, but they have not yet developed very far.

Occupational Preferences of White and Métis-Indian Boys. Table III shows the combined first, second and third choices of 71 White and 47 Métis-Indian boys enrolled in Grades VII-X in Northern Saskatchewan schools. The column of totals is arranged in order of descending numerical importance.

As previously indicated, the scientific professions rank as first choice for the group as a whole, with engineers and pilots second, and skilled workers third. Together, these three occupational categories account for half of the male students' preferences.

Only in the last of these three occupational categories, however, are the preferences of White and Métis-Indian students proportion-

TABLE III
COMBINED FIRST THREE OCCUPATIONAL CHOICES OF
177 NORTHERN BOYS—BY ETHNICITY

	White		Métis-Indian		Total	
	No.	Percent	No.	Percent	No.	Percent
Doctors, Engineers, Scientists, Geologists, Social Workers	27	26.5	10	14.1	37	21.4
Railroad engineers, Air pilots	23	22.6	8	11.3	31	17.9
Skilled workers (car- penters, mechanics, electricians	11	10.8	9	12.7	20	11.6
Teachers	4	3.9	7	9.9	11	6.4
Ball players, hockey players	4	3.9	5	7.0	0	5.2
Conservation officers, Forest rangers	5	4.9	2	2.8	7	4.1
R.C.M.P.	5	4.9	2	2.8	7	4.1
Trappers, Fishermen	3	2.9	4	5.6	7	4.1
Armed Services	2	2.0	4	5.6	6	3.5
Truck and bus drivers ...	0	.....	4	5.6	4	2.3
Farmers, ranchers	3	2.9	1	1.4	4	2.3
Storekeepers	0	.....	2	2.8	2	1.2
Priests	0	.....	2	2.8	2	1.2
Others	15	14.7	11	15.5	26	15.0
Totals	102	100.0	71	99.9	173	100.3
Number of respondents	70		47		117	

ately balanced. The professions and the pilots-engineers attract notably more White than Métis-Indian boys.

Let us now list separately those occupational choices which differentiate the two ethnic groups. For most of these categories, the N (number of cases) is too small to warrant any claim of statistical significance.

Occupations Attracting Proportionately More White than Métis-Indian Boys.

- the scientific professions
- railroad engineers, air pilots
- conservation officers, forest rangers
- R.C.M.P. officers

Occupations Attracting Proportionately More Métis-Indian than White Boys.

- teachers
- baseball and hockey players
- truck and bus drivers

If we consider simply the first occupational choices of the 117 Northern schoolboys, we find approximately the same pattern of similarities and differences in the occupational preferences of the two ethnic groups that we have described above with respect to

the combined three choices. Some conclusions are suggested by the job choices expressed by the boys.

Among the boys, *first*, there are obvious ethnic differences in certain occupational preferences, although the *range* of choices is nearly the same for both ethnic groups. Larger proportions of White than of Métis-Indian boys aspire to the high-status scientific professions, and to such glamorous jobs as railway engineers and airplane pilots. Only three occupations are monopolized by one ethnic group—truck drivers, storekeepers, and priests—all three by the Métis-Indians.

Second, the level of Métis-Indian job aspiration seems somewhat lower than that of the White boys. This may indicate realism on the part of the boys—given the obvious ethnic differences in life prospects. Kew writes of Cumberland House:

The most significant feature about employment inside the community is the unequal sharing of opportunities between the two main ethnic groups—White and Métis-Indians. All the White wage-earners, but only a fraction of the Métis-Indians are employed within the community. Furthermore the White occupy all the superior positions. Most Métis work under White superiors, and no White under Métis. Finally, those few Métis who do have local permanent jobs do not earn as much as the Whites.⁴

However, our student essayists do not see this class structure explicitly as “discrimination.” When the Métis student refers to his parents’ occupational status as too low for his aspirations, he generally attributes this to his parents’ lack of education. The Métis child perceives education as the great “equalizer”—the avenue to equal job opportunity. One Grade IX student describes his hopes:

For my parents, the pay they get is good enough because that’s about what they’ll be getting all their lives. It is very different with me. I want to finish school, get a good job with good pay, and some day have a family of my own who will think the same as I. I don’t blame my parents for not having a good education—they did not have the chance we have.

Third, certain individual items then claim our special notice.

- none of our 47 Métis-Indian schoolboy respondents wanted to be a social worker or lawyer;
- only two of the 47 wanted to be priests;
- not one Métis-Indian boy wanted to be a Conservation Officer, either as first, second or third choice! In view of the unquestionable importance, power, and prestige of conservation officers in Northern Saskatchewan, we think this stark fact should have a sobering impact on many readers. Does it mean that Métis-Indian boys see the Conservation Officer as too high and remote for their aspiration? Or do they reject him as an alien power figure? Or is there some other explanation? We cannot say.

⁴ *Cumberland House in 1960*, p. 61 (Economic and Social Survey of Northern Saskatchewan, Centre for Community Studies, Saskatoon, 1962.)

REASONS FOR OCCUPATIONAL CHOICE, BY ETHNICITY

A 16-year-old Métis student in Grade IX notes a new outlook in his community:

Beauval today is much different from what it was ten years ago because now it seem people are starting to realize the great need for education. Before, education was not so important; but today it seems that nothing can be done without education. Today, education is most important if a person intends to do something and be a somebody.

"To be a *somebody* . . .' Seeking an identity through an occupation is a common reason for selecting certain careers. This and other reasons are illustrated in Table IV, which classified the reasons for occupational preference by the two ethnic groups. The mean number of reasons for all students is 2.7; groups were equally verbal in giving reasons for their choices.

One Métis student in Grade IX compresses into a few lines many problems of Northern education—lack of educational facilities, students dropping out of school, delinquency and racial barriers. He says:

I would like to become a teacher because I would like to help the people of the North. I known how hard it is here without our education. In most of the towns around here, the pupils quit at 15 and even sooner. Some do not get a chance to get their education. They run around town get into trouble and mischief, making gangs and fighting. I was once in a gang and I know how it feels. Also I would want more Métis to graduate and have good jobs and be somebody in life.

An analysis of the reasons given by the students for their particular career choices points up some differences which may be related to ethnic group membership. A checklist of 16 reasons was drawn up and applied to each essay. A rigorous requirement was that the essay must have clearly stated reasons before they could be counted; the analyst was not to "read into" the essays any meaning which may or may not have been intended by the student author. Table IV shows the checklist and the results.

Compared to the White respondents, the Métis-Indian boys seem to express stronger social motives, more family influences, a stronger orientation to status in the North rather than to status in general, and—surely a key fact—dislike for their parental occupations. Since the latter would be mainly trapping and fishing, we can infer a clear aversion, on the part of many Métis-Indian boys, to the traditional Indian occupations. The oncoming generation is not content to be trappers and fishermen. Northern Métis and Indian young people are definitely orienting to the modern world of White urban-industrial society.

The chief reason given for career preference was the desire to help others. This "social orientation" shows up also in the numerous students wishing to be nurses and teachers. However, students choosing such careers as bush pilots and geologists likewise see

TABLE IV
REASONS FOR WHITE AND MÉTIS-INDIAN STUDENTS
FOR OCCUPATIONAL CHOICE

Reasons	White (N=140)		Métis-Indian (N=126)		Total (N=266)	
	No.	Percent*	No.	Percent	No.	Percent
Social orientation: desire to help others, contribute to humanity	49	35.0	59	47.7	108	40.6
A job providing oppor- tunity to meet new people, hear different languages	64	45.7	41	32.5	105	39.8
Money-oriented	44	31.4	37	29.4	81	30.5
Cites a childhood experience	28	20.0	41	32.5	69	25.9
Wants excitement, thrills	42	30.0	21	18.3	63	23.7
A career with future status	37	26.4	25	21.1	62	23.3
Cites some family influence	22	15.7	26	23.9	48	18.1
Chooses a job because it would be "fun," or "I would like it."	17	12.1	12	9.2	29	10.9
Security-oriented	15	10.7	12	9.2	27	10.2
Chooses a job for its glamour	11	7.9	10	5.5	21	7.9
Wants high status for Northern community	11	7.9	15	13.7	26	9.8
Wants high status "outside"	9	6.4	4	3.7	13	4.9
Dislike for parental occupation	1	.7	11	10.1	12	4.5
Religious influences	2	1.4	5	4.6	7	2.6
States a choice but qualifies with, "I don't know," or "I'm not sure."	16	11.4	15	11.0	31	11.7
Average responses per student	2.6		2.7		2.6	

(*percent do not add to 100, because most students gave more than one answer.)

Reasons given more
often by White students
—meet new people
—excitement, thrills
—career with future status

Reason cited more
often by Métis-Indians
—social orientation
—childhood experience
—family influence
—desire for high status in
 Northern community
—dislike for parental
 occupation

their work as directly helping their fellow man in the North. Table IV indicates a significantly greater number of Métis and Indian than of White students expressing social concerns in relation to their future jobs. This finding is consistent with the generally accepted view that Indian people have a greater concern for mutual welfare than do White people.

The "social conscience" is sometimes difficult to express, but appears in various forms, such as the diverse pattern of occupations suggested by a Grade VIII girl:

Still I would like to be a Nun. They also help people all over the world in many ways. I would want to go to Africa or China to teach the people about God and to help those suffering from diseases. After about five years of serving I would like to leave, if I couldn't go on, or if I couldn't be loyal to God, and get married or try to get another job somewhere. These two things I would like to be right now, but being a teacher or a nurse or something is still in my mind. There are so many wonderful jobs to choose from. Right now, I am not sure what my choice may be. The future will tell.

The White student is more concerned with a job that will provide him with the "opportunity to meet new people, visit foreign lands, and hear different languages." This adventurous spirit also appears again, and predominately, amongst the White students in the form of a desire for "excitement and thrills." These White students explain their job preference on such grounds as— they would "like it," or "it might be fun." We may infer that the White students are more daring, more audacious in their job speculation than are the Métis or Indian students.

Some of these students get excited even about such occupations as autobody repairman. A Grade VIII boy writes:

I would also like to be a bodyman. It seems exciting to pound out cars. From the start when you bring in a smashed car to the end when you bring it out of the garage all painted and the dents taken out of it.

One White student from Creighton expresses the modern man's dilemma: how to combine status, stability and security with a job on the *qui vive*. One White student who hopes "to live it up" on the West Coast first says:

When I leave Vancouver I will come back to Flin Flon and settle down here . . . I would like to have my own house in the uptown area not too far from Main Street. I would become a member of the Canadian Legion. I would also belong to the Salvation Army Church, I would attend Church every Sunday at 7:00. In my spare time I would build a boat and go fishing on the many lakes around Flin Flon. I would have a car of my own so I would not have to ride a taxi. When I become an engineer I hope to make a fortune.

The Métis students show a greater "family orientation" in job selection: they mention family influences and childhood experiences, usually in a family context, as reasons for preferring a certain occupation. Ten percent of the Métis students—but less than 1 percent of the Whites—admit to a definite dislike for their father's

occupation (in every case fishing or trapping). One 14-year-old Métis boy expresses this: "Maybe I won't get an opportunity to get an education but I'll try hard to get one so I don't have to make a living by fishing and trapping." A second student, 15 years old, has this to say:

I would not like to work where my father is working because I think a mechanics is much better paid and has a better chance to earn a living. My goal for the future is very high but I will try my best. Success is a very small word but has a big meaning—and that is what I will be aiming for.

The only White, a Grade VII student, to express a dislike for his father's occupation makes a very moving statement. High regard for education as a means to occupational success is obvious. This Grade VII student states:

I would not like to follow my dad's tracks, I am sorry to say. But he had never a chance to go to school past Grade 7. So down he went as a miner breaking his foot 3 times and also breaking our family's heart in sorrow. But for those that got only Grade 7 or 8 education and quit for a little job that will not last them a lifetime, you might as well push them off the road and don't bother them, ten chances to one in later years they will be leading a gang or in it. But I would like to be a person to stop them, and maybe they may try their luck at night school if they have any brains at all.

Another student feels quite the opposite—he identifies completely with his father. This White youngster also has the touch of the romantic in him as he rhapsodizes about the North:

My father's footsteps are adventurous ones and I would follow his tracks if it would be 70 years from now.

I would like to spend most of my time up North around Husdon's Bay in Ontario where the shield still lingers and the muskeg swamps are frequent enough. For there a few years from now the wilderness will still be the same and the wolves will still be chasing the deer and moose through the hills.

Occupations were chosen, in several instances, because the career offers a high status role. The Métis student tend to think in terms of higher status in the Northern community, while the White students prefer careers offering high status in "outside" communities, on a provincial or national level. It would appear that the White students have a wider horizon and greater awareness of opportunities "outside."

Consistent with this generalization is the fact that more White students see a job offering high status in the future rather than one conferring immediate status elevation. White students seem more "future oriented" than Métis Indian students. They can look more easily and realistically to long-run success than to immediate promotions. However, some Métis students look toward the next generation. Two Métis girls express their hopes for marriage:

When I get married I'm going to get a good-sized house, not too big and not too small. When my children grow up I will send them to school so

they will have a good education. I don't want them to run around town all day doing nothing. I want them to get good jobs and not be like their grandparents. I don't want them to get into trouble . . .

The second writes:

If I get married I hope I won't be poor, but I wish I'll have all the things I need like electricity, running water, water pipes, and all sorts of electric appliances. etc. When I have children I'll make them pass their Grade 12, then go to University, then be someone special.

Two Métis girls revealed a compact between themselves agreed to earlier which, although unrealistic, expresses what they perceive as a need for their community. The first says:

Ever since I was knee-high to a grasshopper I've always wanted to be a Police woman. And I would like to come in to La Ronge and work as a Police Woman.

Her associate, two years older, gives their reason for this career:

I want to come to La Ronge as a Policewoman after we take our courses. So there'll be peace in La Ronge and we can put the bad people in jail.

There appears to be little difference amongst the ethnic groups regarding the desire for jobs because of the financial remuneration. The third most common reason given was "money," equally preferred by both Métis and White. Jobs which offer security are stressed equally by both groups, although this aspect of employment did not appear to be a great concern to many. However, one Métis refers to his fear of unemployment:

When I see children running around at night in the street, I feel sorry for them and their parents. I also feel sorry for my people who stay in their houses and are out of jobs. When I see my big brothers bum around my mother, I feel sorry for them so that is why I want a future.

Education was first established by religious orders in the North, and the religious influence on education is still considered to be strong. However, it seems to have little bearing on students' occupational choices. Only seven students referred to the religious influence of their church as affecting their choices.

Political action as a means of improving the lot of Northern people was expressed only twice in the essays. One student feels that living north of Prince Albert should not deter him from becoming Prime Minister of Canada.

The lone White student who wants to be a trapper puts his case clearly, and in one way points up the characteristic rebelliousness of youth:

When you are a trapper you do not have to run by the whistle or be bossed around. If my parents would let me quit school and do what I wanted, I would head for the bush so quick you wouldn't even know I existed. I think that if you want a good career just head North and trap.

A few students were just not up to the task of choosing a career. One student begged off by declaring, "It gets complicated just thinking of the things I could be. So I just don't know."

AN EVALUATION OF SELECTED INTELLIGENCE TESTS FOR TWO SAMPLES OF METIS AND INDIAN CHILDREN

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The Problem

Contemporary philosophies of education expect that instruction will be adapted to the intellectual potential of the pupil. However, in order to adjust teaching treatments to pupil potential, a fair estimate of that potential is required. Many studies in recent years indicate that conventional verbal measures of intelligence tend to discriminate against children who are not members of urban middle-class culture. Teachers and counsellors frequently require a less biased estimate of the potential of a pupil who is the product of a rather different culture. Hence the search for measures of intelligence which are relatively independent of specific environmental experiences becomes especially important.

Several so-called culture-reduced tests have been developed in an attempt to minimize the effects of cultural differences. The present paper reports a study of the relative extent of bias evident in a selection of such tests for a sample of Faust, Alberta, Métis children and for another sample of Fort Simpson, N.W.T., Métis and Indian children.

Theoretical Foundation

It is recognized that nature and nurture are inseparable in the production of intelligent behavior. In agreement with Hebb(4), it is postulated that individual differences in measured intelligence result from the interaction of heredity and environment in a multiplicative manner. Moreover much of the confusion and controversy over the relative importance of these factors has resulted from varied uses of the term "intelligence." For this reason Hebb distinguishes between intelligence A (innate intellectual potential) and intelligence B (present level of performance). Recognizing that different tests will assign different values to an individual's present level of performance, Vernon(8) added intelligence C (an estimate of B made by a given intelligence test).

It is suggested here that if the concept of *potential* in contradistinction to proficiency is to have any place in psychological theory it is necessary to further distinguish between intelligence

A (i.e. *innate potential*) and *present potential*. Present potential may be defined as an individual's present capacity for future development of intelligent behavior. For convenience we may refer to present potential as intelligence A'. A' is the residual of an individual's original innate potentiality at any particular time after conception.

Whereas intelligence A is a constant, intelligence A' is a variable such that A' is less than or equal to A. Such factors as nutrition, toxic influences, destructive or traumatic events, and absence of stimulating experiences may intervene to cause intelligence A' to be less than intelligence A. The essential difference between intelligence A' and intelligence B at any time is that A' refers to the potential or capacity for future development assuming novel and optimum treatment. Intelligence B, on the other hand, refers merely to the level of presently developed and functioning intellectual abilities.

The assumption that intelligence B results from the interaction of innate pre-dispositions and environmental influences in a multiplicative manner gives rise to certain interesting logico-mathematical deductions. First, the assumption may be expressed by the mathematical model $B=AE$ where:

B denotes intelligence B as defined by Hebb,

A denotes intelligence A, and

E represents the totality of cultural or environmental experiences, which stimulate, thwart and direct organized behavioral development.

From this paradigm it becomes obvious that attempts to hold the effects of E constant are tantamount to attempts to restrict the variability of B to that of A and thus provide an estimate of innate potential. The magnitude of A obviously can never be measured directly but can only be inferred from the magnitude of B. When E is set equal to zero by simple algebraic substitution in the equation $B=AE$, B also becomes zero. This fact implies that it is impossible to design a test of B which is not contingent upon E.

However impossible it may be to design a test which is culture-free, the task of designing culture-reduced tests need not be abandoned. The culture-reduced tests represents an attempt to minimize the influence of: (a) specific information and skills that not all children have had equal opportunity to acquire, and (b) personality factors more likely to be developed in one culture than in another, e.g. motivation and work habits. It is suggested that by minimizing the variance in intelligence B attributable to these environmental factors, the resultant measure will be an estimate not of intelligence A but of A'. Although it appears futile at present to attempt even an indirect estimate of intelligence A, an assessment of A' is a realistic goal. Further, it is present potential in contradistinction to

innate potential that it of interest and practical significance to the educator. It is present potential on which future development depends, and upon which adaptive teaching treatments must be based.

Hypotheses

The essential purpose of the study reported in this paper was to answer an urgent and practical question: "Which of the available group tests or sub-tests assess intellectual ability with a minimum of cultural bias for samples of Métis and Indian children?" The following hypotheses were thus set up:

- I. Some of the tests in the experimental battery will show considerably less cultural bias than will others.
- II. The tests which show least cultural bias will consists largely of items that can be solved in any language or mode of expression and which are probably as novel to one group as to another.¹
- III. Tests which show least cultural bias will, nevertheless, show substantial correlation with school achievement.
- IV. Tests which show least cultural bias will show substantial correlation with other tests of the battery.

Experimental Design and Procedure

Samples: Data used in the study were collected for two samples of Métis and Indian children. The Faust sample consisted of all Métis children in grades I to VIII inclusive who were attending the Faust School in May, 1961, and for whom complete test data were available. This sample consisted of a total of 126 pupils.

The Fort Simpson sample, which permitted a complete replication of the investigation, consisted of all Métis and Indian children in grades I to IX inclusive, who were attending the Fort Simpson School, at Fort Simpson, N.W.T. in October, 1961, and for whom complete test data were available. This sample consisted of 155 pupils.

The two samples were sub-divided for analysis by grade level, as follows:

Grade I	Faust N = 32	Fort Simpson N = 19
Grade II and III	N = 42	N = 46
Grade V and VI	N = 29	N = 58
Grade VII and VIII	N = 23	N = 32

Measures: The following battery of tests, selected by MacArthur for a factor analytic study, provide the instruments for analysis in this study: Progressive Matrices (Standard and Coloured), IPAT Cattell Test of "g" Scale 2, Lorge-Thorndike Non-Verbal Intelligence Test (Levels 1, 2, 3, 4, with Part I, Part II, Part III and Total scores for each level), Safran Culture-Reduced Intelligence

¹ In order to test this hypothesis each of the tests was inspected and categorized into two groups prior to the analysis of data. Tests which appeared to fit the above description were classified as "culture-reduced." Those which did not were classified as "conventional."

Test, California Short-Form Test of Mental Maturity (Elementary, Primary, Pre-Primary, with six sub-tests and a Total score at each level), and Detroit Beginning First-Grade Intelligence Test.

Administration: At Faust, the battery of Tests was administered in May 1961 by home room teachers, under the supervision of Mac-Arthur. At Fort Simpson, the battery was similarly administered in October 1961.

Method of Testing Hypotheses: Raw scores on each test for the two samples at the grades I to VI levels were converted to derived scores based on a scale of Calgary T-scores, the Calgary group having a mean of 50 and standard deviation of 10 on each test. For the Grade VII and VIII level, raw scores were converted to derived scores based on a scale of Edmonton T-scores. This procedure made it possible to compare the performance of the samples on the different tests of the experimental battery. Differences in performance on the several tests relative to that of the urban white standardization group were interpreted as indicative of the extent of cultural bias in the tests.

The mean, standard deviation, mean correlation with other variables of the battery, and correlation with school achievement were found for all tests. For these computations, the I.B.M. 1620 was used.

Hypothesis I was then tested by submitting all observed differences between means for each of the grade levels to the appropriate statistical test for significance (Duncan's multiple-range test, or the ordinary t-test).

For testing Hypothesis II, scores for all tests in each classification were combined and the mean and standard deviation of the combined groups were found. The difference between the means of the two groups was then submitted to the traditional t-test. A one-tailed test was used since the direction of the difference was hypothesized. Performance which was significantly higher on one group of tests than on the other was again interpreted as indicative of less cultural bias in the former group of tests.

Hypothesis III was tested by finding the correlation between all variables at each level and grade placement on the California achievement battery for that level. Hypothesis IV was tested by finding the average of all non-spurious correlations of a given test with every other variable of the battery, using Fisher's z transformation.

Criteria for Evaluation: Four criteria were used to evaluate each test as a cross-cultural measure of intellectual potential. These

four criteria, generally speaking, parallel the four hypotheses previously set up. They are as follows:

1. A cross-cultural test of intellectual potential should show less difference between cultures in a bi-cultural administration than do conventional verbal tests.
2. It should contain items that can be solved in any language or mode of expression and which are likely to be as familiar and useful for one cultural group as another.
3. It should show substantial relationship to school achievement.
4. It should show a significant relationship with other well known and commonly used measures of intelligence.

The results from testing Hypotheses I to IV suggest that the degree to which a given test meets the evaluation criteria is a function of the level at which the test is administered. In other words, a test may satisfy the criteria at one level, but may fail to do so at another. For this reason the tests have been evaluated at four different grade levels.

Since the major purpose of the study was to identify those tests which showed a minimum of cultural bias, not all criteria were considered of equal importance. Each test was therefore evaluated primarily against criterion 1, provided that it met the minimum requirements of criteria 2, 3, and 4. A test was regarded as having met criterion 2 if it had been classified a priori as culture-reduced. It was regarded as having met criterion 3 if it showed a correlation of .40 with the California Achievement Total grade placement, provided however, that such a correlation was significant at the .05 level. Finally a test was regarded as having met criterion 4 if it showed a mean non-spurious correlation with other tests of the battery which is significant at the .05 level.

Results

The main results from this study are summarized in Tables I to IV. For both the Faust and the Fort Simpson samples, and at each of the four grade levels, some of the tests of the experimental battery were found to show significantly less cultural bias than others.² These test instruments have been identified and Hypothesis I has received support.

In each instance where it was possible to test Hypothesis II it was found that tests which (a) consist largely of items that can be solved in any language or mode of expression, (b) have minimal dependence on past specific learning, and (c) are probably as novel to one culture group as to another, showed significantly less cultural bias than other more conventional tests. Thus Hypothesis II was supported.

² Whether a given test is significantly less biased than the *Detroit Beginning or CTMM Total* is presented in this report. The reader interested in knowing whether other observed differences between means are significant will find such information in West's unpublished M.Ed. thesis.

Where N is not too small (considerably less than 30) those tests which show minimum cultural bias also show, with few exceptions, significant and substantial correlations with academic achievement. Hence, Hypothesis III is supported. Although culture-reduced tests have a minimum dependence of past specific learning, it would appear that these tests do sample from abilities required for academic success.

Hypothesis IV also was supported by the study. Culture-reduced tests by and large have a moderate and significant correlation with other measures of intelligence.

Considering in more detail relationships to the four criteria for evaluation, Table I shows that the SCRIT, Lorge-Thorndike II, Lorge-Thorndike III and Progressive Matrices each satisfy all four criteria at the Grade I level. Differences in extent of cultural bias among these tests are small. However, the SCRIT probably shows greatest promise as a cross-cultural test at this level; it has least bias for both samples.

Table II shows that each of the following tests meet all four criteria at the Grade II and III level: CTMM-Spatial, CTMM-Non-language, Lorge-Thorndike II, Lorge-Thorndike III, SCRIT, Progressive Matrices. The CTMM Non-Language test probably shows greatest promise as a cross-culture test at this level, followed by Lorge-Thorndike II.

At the Grade V and VI level, CTMM Total scores were not available for the white urban comparison group. As indicated in Table III, the Progressive Matrices, the Cattell Test, and SCRIT show least cultural bias at this level.

It will be noted from Table IV that five tests meet all four criteria at the Grade VII and VIII level, and are therefore promising as cross-cultural tests of potential at this level. They are: Lorge-Thorndike I, Lorge-Thorndike III, Lorge-Thorndike Total, Progressive Matrices, Cattell. The Lorge-Thorndike Total as well as having a relatively high mean T-score, correlates highly with achievement and has the highest mean correlation with other tests of the battery. Progressive Matrices ranks after the two Lorge-Thorndike sub-tests.

Summary, Conclusions, and Implications

The purpose of the study reported here was to investigate a selection of culture-reduced intelligence tests, and to identify those which for two samples of Métis and Indian children, at four grade levels, show a minimum of cultural bias.

A battery of tests, selected by MacArthur for a factor analytic study, was administered to a sample of 126 Métis children attending

TABLE I
ANALYSIS OF TESTS AT GRADE I LEVEL

Test	Mean T-Score based on Calgary		Standard Deviation		**		*	Correlation with Achievement		Mean Correlation with other tests of battery	
	Faust	Ft. Simp.	Faust	Ft. Simp.	Faust	Ft. Simp.		Faust	Ft. Simp.	Faust	Ft. Simp.
Prog. Matrices	41.4	40.5	6.9	20.9	Yes	Yes	R	.51	.55	.35	.46
S.C.R.I.T.	48.5	41.4	5.9	9.8	Yes	Yes	R	.53	.....	.....	.45
Lorge-Th. III	43.4	39.5	9.8	9.0	Yes	Yes	R	.47	.49	.35	.....
Lorge-Th. II	44.5	38.9	8.2	10.3	Yes	Yes	R	.63	.....	.38	.....
Lorge-Th. I	37.5	32.4	8.4	7.0	No	No	C	.35	.47	.....	.....
Lorge-Th. Total	39.4	34.5	7.7	6.0	Yes	Yes	C	.62	.....	.36	.49
Detroit Beginning First Grade	35.0	27.4	4.2	7.6	.....	.....	C	.....	.78	.....	.52

*Classification = C—conventional; R—culture- reduced.
**Show significantly less bias than Detroit Beginning, at .01 level.
Correlations not significant at the .05 level are omitted from the table.

TABLE II
ANALYSIS OF TESTS AT GRADE II AND III LEVEL

Test	Mean T-Score based on Calgary		Standard Deviation		**	*	Correlation with Achievement		Mean Correlation with other tests of battery	
	Faust	Ft. Simp.	Faust	Ft. Simp.			Faust	Ft. Simp.	Faust	Ft. Simp.
Prog. Matrices	35.0	36.3	11.1	12.2	Yes	R	.72	.30	.58	.34
S.C.R.I.T.	38.4	39.8	8.7	11.1	Yes	R	.64	.47	.52	.34
Lorge-Th. III	45.2	37.2	10.1	14.1	Yes	R	.30	.63	.48	.40
Lorge-Th. II	41.3	39.8	8.3	9.8	Yes	R	.55	.58	.32	.40
Lorge-Th. I	29.4	20.3	7.2	7.4	No	C	.54	.64	.52	.40
Lorge-Th. Total	33.0	24.2	9.6	10.3	No	C	.65	.30	.41	.34
CTMM-Spatial	47.6	52.9	11.5	10.2	Yes	R	.43	.41	.50	.35
-N. Lang.	40.8	41.8	12.8	10.2	Yes	R	.60	.49	.38	.35
-Logic	35.0	30.0	8.5	6.2	Yes	C	.69	.35	.42	.38
-Numer.	31.9	26.0	11.0	10.3	No	C	.77	.56	.55	.35
-Total	29.0	21.3	11.5	8.0	.....	C	.74	.49	.51	.29
-Verbal	28.0	17.4	8.7	7.4	No	C	.77	.56	.50	
-Lang.	25.5	16.5	8.5	5.6	No	C				

*Classification = C—conventional; R—culture-reduced.
**Show significantly less bias than CTMM-Total, at .01 level.
Correlations not significant at the .05 level are omitted from the table.

TABLE III
ANALYSIS OF TESTS AT GRADE V AND VI LEVEL

Test	Mean T-Score based on Calgary		Standard Deviation	*	Correlation with Achievement		Mean Correlation with other tests of battery	
	Faust	Ft. Simp.			Faust	Ft. Simp.	Faust	Ft. Simp.
Prog. Matrices	37.1	39.9	9.7		.62	....	.71	.53
Cattell	38.4	38.5	10.5	R	.45	.41	.62	.56
S.C.R.I.T.	36.0	39.2	8.9	R	.51	.47	.65	.43
Lorge-Th. III	34.1	29.2	15.7	R	.52	.50	.51	.62
Lorge-Th. II	33.6	29.4	11.1	R	.64	.65	.53	.63
Lorge-Th. I	36.5	34.2	8.5	R	.53	.37	.57	.50
Lorge-Th. Total	30.8	26.8	11.0	R	.73	.60	.72	.61

*Classification = C—conventional; R—culture-reduced.
Correlations not significant at the .05 level are omitted from the Table.

TABLE IV
ANALYSIS OF TESTS AT GRADE VII AND VIII LEVEL

Test	Mean T-Score based on Edmonton		Standard Deviation	**		*	Correlation with Achievement		Mean Correlation with other tests of battery	
	Faust	Ft. Simp.		Faust	Ft. Simp.		Faust	Ft. Simp.	Faust	Ft. Simp.
Prog. Matrices	40.7	45.2	6.0	No	Yes	R	.58	.43	.56	.34
Cattell	41.4	40.8	11.0	No	Yes	R	.56	.38	.47	....
Lorge-Th. III	42.7	46.4	9.9	Yes	Yes	R	.60	.71	.59	.41
Lorge-Th. II	40.7	44.8	6.8	No	Yes	R	....	.43	....	....
Lorge-Th. I	46.5	45.0	10.3	Yes	Yes	R	.48	.58	.45	.39
Lorge-Th. Total	41.9	44.7	8.8	Yes	Yes	R	.63	.75	.60	.48
CTMM-Spatial	46.0	44.9	7.5	Yes	Yes	R	....	....	....	....
-N. Lang.	43.4	41.0	7.8	Yes	Yes	R	.47	....	.48	....
-Logical	37.7	34.8	8.7	No	No	C	.71	.57	.53	.42
-Numer.	37.1	36.3	9.9	No	No	C	.56	.59	.48	.40
-Total	36.0	31.4	10.7	....	....	C	.80	.77	.63	.40
-Verbal	35.9	32.8	12.9	No	No	C	.74	.71	.45	....
-Lang.	32.8	29.6	12.6	No	No	C	.80	.75	.47	....

*Classification = C—conventional; R—culture-reduced.
**Shows significantly less bias than CTMM-Total, at .01 level.
Correlations not significant at the .05 level are omitted from the table.

the Faust school. As a replication, an identical battery of tests was administered to a sample of 155 Indian and Métis children attending the Fort Simpson school.

The relative extent of cultural bias in the tests for each sample and at each grade level was determined by comparing the means of derived scores on the tests. All such derived scores were based on a scale of Edmonton or Calgary T-scores in order to assure comparability of performance on the various tests and to permit a comparison of performance between cultures.

The major findings for the study were as follows:

1. Some tests show significantly less cultural bias than do others.
2. Tests hypothesized as culture-reduced show significantly less cultural bias than the more conventional tests.
3. The culture-reduced tests show substantial correlations with academic achievement and therefore sample from the abilities required for academic success.
4. The culture-reduced tests show substantial correlations with other more conventional measures of intelligence and therefore possess concurrent validity.
5. A test which appears to show little cultural bias at one level may show considerably greater bias at another level.

The tests of the experimental batteries used in the investigation were evaluated against four criteria. Those tests which show greatest promise at each level for cross-cultural assessment of intellectual ability have been identified.

The Progressive Matrices is recommended at all levels. The SCRIT also meets the four criteria at the levels for which comparable white urban data were available. Other culture-reduced tests meet the criteria at certain specific grade levels.

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LEARNING EFFECTIVENESS UNDER THE TRIMESTER SYSTEM

D. A. GIRARD AND F. ENNS

I. Introduction

One of the concerns of a school system is to improve the effectiveness of learning and, at the same time, to maintain or increase the efficiency of using resources to achieve such improvement. Various means of doing so, such as organizational changes, curriculum modifications or utilization of instructional aids, have been employed. Most innovations in organization, programs or techniques, however, have been introduced within the framework of the conventional school year of ten months.

A further innovation which might contribute to the more effective utilization of resources is the divided school year. Under such a plan the conventional year is divided into two or more terms of equal length. During each term a student completes a limited number of courses. Daily instruction time is adjusted so that although the term is shorter, total time spent is equal to that spent under conventional organization.

The Composite High School in Red Deer, Alberta, has operated since 1949 on such a basis. The year is divided into three terms, or trimesters, of equal length. The terms are independent of each other; instruction in a given course is completed in a single term and a final examination is given at the end of the term. In the next term a student may proceed to a sequent course in the same subject, or to other courses at the same grade level.

The system was originally introduced to accommodate special students who were unable to attend school for the whole year, or who desired to clear a limited number of deficiencies so that they could proceed with further study. The school has functioned successfully over the years but there has been little attempt to make a formal assessment of effectiveness of learning under this form of organization, retention of learning, or improvement in the utilization of staff and physical facilities.

II. The Problem

The study¹ being reported here investigated a particular phase of student achievement in the Red Deer School. Specifically, achievement of the Red Deer students on the Grade XII depart-

¹ D. A. Girard, "Learning Effectiveness Under the Trimester System of School-Year Organization at the Lindsay Thurber Composite High School, Red Deer, Alberta," Unpublished M.Ed. Thesis, University of Alberta, 1962.

mental examinations in English, social studies and mathematics for the year 1955, 1958 and 1961 was compared with the achievement of students who attended conventionally organized schools and who wrote the same examinations in the same years.

III. Research Design

The comparison was made by means of a two-way analysis of variance of examination scores of matched groups of Red Deer and control students. The sampling universe was limited to those students who wrote the Grade XII departmental examinations in English, social studies, and mathematics for the years 1955, 1958, and 1961 in the following city school districts: Red Deer, Lethbridge, Drumheller, Medicine Hat and Wetaskiwin. The sampling universe was further limited to include only those students who had progressed from Grade IX to Grade XII in a three-year interval within a given district.

Matching of the groups was done by means of frequency distribution control. The primary trait used in matching was the relevant Grade IX achievement score. The groups were also matched on the basis of Grade IX ability scores, and sex. The effect of socio-cultural factors was controlled to the extent that the Red Deer and the control school communities were similar in these respects. The total population consisted of 274 matched pairs.

The raw mean achievement scores for Red Deer and control students are presented in Table I. The row means indicate the over-all average achievement of both groups in each of English, social studies and mathematics for the years 1955, 1958 and 1961. The column means indicate the average achievement, by years, in English, social studies and mathematics for each of the two groups.

TABLE I
RAW MEAN ACHIEVEMENT SCORES IN GRADE XII
DEPARTMENTAL EXAMINATIONS

Year	Subject	Red Deer Group	Control Group	Over-All Average
1955	English	55.3	55.0	55.2
	Social Studies	60.6	56.3	58.4
	Mathematics	50.6	47.3	49.0
1958	English	62.6	60.3	61.5
	Social Studies	60.2	59.8	60.0
	Mathematics	53.2	45.0	49.1
1961	English	59.6	58.5	59.1
	Social Studies	60.0	59.8	59.9
	Mathematics	64.4	51.3	57.9

IV. Analysis of Data

This study was concerned with differences between column means. The row means could be used to compare differences among academic subjects but such a comparison had no relevance to this study. Because there was a possibility that the variance associated with row means would mask the variance associated with column means, achievement scores were standardized to a mean of 50 and a standard deviation of 10 for any matched group. The transformed mean achievement scores are presented in Table II.

TABLE II
MEAN ACHIEVEMENT SCORES ADJUSTED TO ROW
MEANS OF 50 AND ROW STANDARD DEVIATIONS OF 10

Year	Subject	Red Deer Group	Control Group	Over-All Average*
1955	English	50.1	49.8	49.9
	Social Studies	50.1	48.7	49.8
	Mathematics	51.5	48.3	49.9
1958	English	50.8	49.0	49.9
	Social Studies	50.1	49.9	50.0
	Mathematics	51.5	47.2	49.3
1961	English	50.6	49.7	50.2
	Social Studies	50.0	49.9	50.0
	Mathematics	54.4	45.5	50.0

*Error due to rounding appears in third significant figure of row means.

IV. Analysis of Data

The use of standardized scores made it possible to combine the achievement in all subjects for a given year for each of the Red Deer and control groups. The combined average achievement for these two groups is presented in Table III.

TABLE III
COMBINED ADJUSTED MEAN ACHIEVEMENT IN
ENGLISH, SOCIAL STUDIES AND MATHEMATICS IN 1955,
1958 AND 1961 FOR RED DEER AND CONTROL STUDENTS

Year	Red Deer	Control
1955	50.7	49.1
1958	50.7	48.9
1961	50.9	49.3

The data were analyzed by means of a two-way analysis of variance (Schools by Years), using an approximation for unequal frequencies described by Walker and Lev.² The summary of the

2 H. M. Walker and J. Lev. *Statistical Inference*. New York: Henry Holt and Co. 1953.

analysis is presented in Table IV which indicates that the over-all differences in achievement between the Red Deer and control students are not significant at the 0.5 level.

TABLE IV
SUMMARY OF ANALYSIS OF VARIANCE OF
ACHIEVEMENT IN ENGLISH, SOCIAL STUDIES AND
MATHEMATICS OF RED DEER AND CONTROL
STUDENTS FOR THE YEARS 1955, 1958 AND 1961

Source of Variation	Sum of Squares	Degrees Freedom	Mean Square	F-Ratio	F 05
Schools	4.16	1	4.16	3.78	3.86
Years	0.09	2			
Interaction	0.02	2			
Error		582	1.10		

The absence of a significant interaction in the analysis of variance further indicates that the relative achievement of Red Deer and control students remained consistent for the years 1955, 1958 and 1961.

As a corollary to this study, the achievement of Red Deer and control students was also compared at different levels. The students to be compared in English and social studies³ were subdivided into three groups on the basis of Grade IX achievement; those students ranking in the bottom third were classified as a low achievement group, those in the middle third as an average achievement group, those in the top third as a high achievement group.

The achievement between Red Deer and control students within each of these sub-groups was compared by means of a two-way analysis of variance (Schools by Subjects) at each of the three levels of achievement. In no case was there any indication of significant difference in achievement between Red Deer and control students. Furthermore, in no case was there any indication of a significant interaction between schools and subjects.

Conclusions and Implications

The specific research hypotheses tested in this study were designed to assess the achievement of the Red Deer groups in English, social studies and mathematics for the years 1955, 1958 and 1961. Analysis of the data indicated that none of the differences in achievement between Red Deer and control students was statistically significant. The achievement of Red Deer students was at least as good as that of students in conventionally organized schools.

³ Mathematics was omitted from this comparison because the number of students involved was too few.

However, the study was confined to those students who had progressed normally through the high school grades. It did not assess the achievement of those students who might have found the trimester system attractive for a variety of special reasons. Therefore, the findings are relevant to a limited aspect of the trimester organization only.

Notwithstanding this limitation, the study performed a useful function. Any innovation must meet the needs of the normal student as well as those of the special student. That this can be done in the divided school year was demonstrated. Students who had progressed through the high school program in three years achieved as well under the trimester organization as in the conventional school.

For complete appraisal of the divided school year, other aspects beyond the scope of the present study should be investigated. The following are suggested for further study:

1. *The Special Student.* The apparent flexibility of the trimester system suggests that special needs of students can be met. The way in which this is achieved for the academically gifted student, the student requiring remedial treatment or the student of mature years requires study and appraisal.

2. *Learning Effectiveness.* While the present study examined achievement on Grade XII examinations, it would also be valuable to compare retention of knowledge. The shorter, more intensive periods for studying any one course suggest that there is less time for the student to assimilate or integrate his learning and therefore that the rate of forgetting will be higher than among students in conventional schools. The present study suggested that this may not be so. Red Deer students performed as well on examinations as their counterparts after three years exposure to the trimester system. To the extent that success on the Grade XII examination depends on retention of learning from Grades X and XI Red Deer students' retention of knowledge was as good as that of students from conventional schools. This conclusion requires further testing, however.

The divided school year is a significant experimental innovation in secondary education. This is one way of varying the "input mix" to try to increase desirable output. While it is not suggested that all secondary schools should adopt the divided school year, such a plan may help a particular school to discharge its obligations more adequately.

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AN EXPERIMENT IN TEXTBOOK SELECTION FOR GRADE TEN LANGUAGE

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Problem

The Purpose of the Study

This study in textbook selection was conducted at the request of the Subcommittee on High School English, Curriculum Branch, Department of Education for the purpose of obtaining, recording and reporting teacher opinion on the effectiveness of certain pre-selected textbooks in the grade ten language program for Alberta schools. *Creative Composition* (4) was to be judged by teachers in terms of its effectiveness as a language text that might serve as an alternate to, or replacement for, the currently used language text, *English for Today*. (3) *Basic Spelling for High School Students* (1) and *English Composition Book II* (5) were to be evaluated in terms of their effectiveness as possible parts of, or supplements to, the grade ten language program.

Importance of the Study

In past years the Curriculum Branch of the Department of Education relied largely on the members of the subcommittee to determine whether or not a text was suitable for use in a certain grade. This study, then, because of its reliance on the opinion of classroom teachers, represents a departure from the usual procedure followed by the Subcommittee on Senior High School English in selecting textbooks to be authorized for use in Alberta schools.

As the purpose of this study was to obtain teacher opinion on the whole as well as the individual parts of certain texts, it was believed that the questionnaire method to be employed should include a combination of objective and open-end questions that would produce the accuracy required and still allow for free expression of opinion.

In addition to the development of a questionnaire method for the pilot project, it was necessary to plan a procedure that would ensure the most complete and accurate expression of teacher opinion.

The importance of the study is based on the following factors:

- (1) the trend in Alberta toward greater teacher participation in textbook selection.
- (2) the desirability of devising a particular questionnaire method for obtaining teacher opinion on the effectiveness of textbooks in a classroom situation.

- (3) the need for the development of a procedure that might serve as a guide in future projects of this nature.

Limitations of the Study

This study was limited to the consideration of certain pre-selected textbooks that were judged by the Subcommittee on Senior High School English as most likely to contribute to the development of the language program in grade ten.

The number of teachers participating in the study was limited to twenty, these teachers being chosen on the basis of qualifications and competence by the Subcommittee. The participating teachers were not asked to assist in the selection of textbooks for the survey, or to do analytical study, but only to make an evaluation, the scope of which was determined by the questionnaire.

The related literature dealt with principles of textbook selection and with the ten areas of an effective language program most frequently emphasized by writers in the field of language teaching. The attention of participating teachers was not called to the review of related literature.

The answers to the questionnaire were assembled and interpreted by the writer. Teacher opinion was reported to the subcommittee members who made the final decision as to whether the texts should be authorized as replacements, alternates, suggested references, or whether they should be used at all.

Definition of Terms

The Subcommittee on High School English is a group of professional educators (teachers, school inspectors and university professors) chosen by the Department of Education to evaluate existing courses, to develop new courses, and to recommend textbooks.

The Faculty Committee is made up of the university personnel who serve as members of the Subcommittee on High School English.

Multiple Authorization of textbooks is the authorization by the Department of Education of two or more textbooks for the use of teachers and pupils in any course. School systems may use one or more of these texts.

Procedure

Plan of Study

Two supervisory visits were conducted during this study. The first visit was made during school opening week to explain the purpose of the study, to discuss the use of the textbooks, and to allow participating teachers to ask questions. The second supervisory visit took the form of a structured interview. The questions were designed to obtain teacher opinion on the effectiveness of the text-

books and to gain information and impressions which might assist in structuring a questionnaire. Reports, both oral and written, were made following each supervisory visit to the Subcommittee on High School English.

In constructing the questionnaire, the investigator first surveyed the opinions of authorities on textbook selection. Most of these opinions were related to the two steps suggested by Waterman (6). These two steps are:

1. The formulation of a set of criteria on standards by which textbooks under consideration may be judged.
2. The conduct of comparative studies, objective in nature as far as possible, to determining the relative merits of the several books on each item of the criteria.

By focussing attention on a number of recent representative articles, periodicals and books, it was possible to derive a list of ten areas considered by most authorities to be important in any language program. These important areas provided criteria of the relative merits of the two texts, *Creative Composition* and *English For Today*. The criteria are listed below:

1. Provision for Individual Differences
2. Motivating Students
3. Preparation For Students' Writing
4. Provision For Creative Writing
5. Provision For Expository Writing
6. Developing Clear Thinking
7. Increasing Students' Skill In Organizing Thought
8. Increasing Students' Skill in Writing Accurately
9. Developing Vocabulary
10. Using Grammar

Open-end questions were employed to obtain information of special interest to the subcommittee and to allow teachers to express freely their opinion on the text or any part of a text.

Conclusions

1. The material in *Creative Composition* was better suited to the the students of above-average and average ability than to students of below-average ability.
2. *Creative Composition* was the kind of language text that would help the inexperienced teacher in dealing with individual differences in the classroom.

3. The teachers believed that various motivational devices used in *Creative Composition* were successful in creating within the student a desire to improve his writing. Of these devices the most successful seemed to be the use of models, and the least successful was the writing-partner idea.
4. *Creative Composition* was effective in assisting the teacher to prepare students for writing.
5. The emphasis on creative writing in *Creative Composition* met with the approval of English teachers.
6. *Creative Composition* did not develop expository writing to the extent that some teachers believe it should be developed.
7. Clear thinking, vocabulary building, accurate writing and organization of thought were satisfactorily developed in *Creative Composition*.
8. The grammar in *Creative Composition*, although of a traditional nature, was functional and well developed. However, it was too elementary for the better students who required more mature supplementary material.
9. Ninety-five percent of the participating teachers believed that *Creative Composition* was "as effective", if not "more effective" than *English For Today*.
10. The omission from the language program of a unit on mass media of communication was not considered a significant loss.
11. *Basic Spelling For High School Students*, or a somewhat similar spelling textbook, would be considered a valuable addition to the grade ten language program.
12. Although the need for writing models, reading comprehension, vocabulary and grammar exercises was frequently stated in answer to open-end questions, it was not believed that the text *English Composition Book II* satisfied these needs in a manner that would be generally accepted by teachers and students.
13. The use of a set of standards based on important areas of a language program, plus a series of open-end questions produced a clear complete impression of teacher opinion concerning the effectiveness of *Creative Composition*.

Recommendations

1. The Subcommittee on High School English might give further consideration to the materials necessary in building a suitable language program for the below-average students, to the testing of these materials in certain classrooms, and to the recommending of useful materials to classroom teachers.

2. The subcommittee should give further consideration to whether or not one spelling book should be authorized or a number of possible books should be suggested for use in grade ten classes in Alberta schools.
3. In view of the comments made by a number of teachers and the stress placed by authorities on expository writing, the Subcommittee might give further consideration to the balance between expository and creative writing in a grade ten language program.
4. At present the Curriculum Guide states that *Guide to Modern English* (2) is authorized for use in grades eleven and twelve, but may be used in grade ten at the discretion of the teachers. Since this text is considered a valuable supplement and guide for the average and above-average students in grade ten, the Department of Education might give consideration to its authorization for use in grade ten.
5. In view of the emphasis placed by teachers on the need for reading comprehension exercises, the Subcommittee might give consideration to recommending for authorization certain supplementary material that would assist teachers in dealing with those students who have comprehension difficulties.
6. Future experiments of this nature should be more tightly controlled through
 - (a) A careful selection of participating teachers according to qualifications, experience, competence and teaching situation.
 - (b) A carefully planned use of certain textbook combinations.
7. In view of the trend toward increased teacher participation in textbook evaluation and selection, the Faculty of Education, University of Alberta should consider giving teachers-in-training instruction in the research, and the methods and principles of textbook selection.
8. The Department of Education should continue to encourage teacher participation in textbook selection.

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PROBLEMS INHERENT IN ABILITY GROUPING

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Ability grouping in the senior high school setting is a not uncommon practice. Generally the literature supports the idea of using different classrooms for the separation of ability groups at this level.^{1, 4, 5, 11} However, when one considers the value of similar grouping at the junior high and elementary levels, certain important differences appear. The research in these areas tends to lack the clarity of implication which is more often found in the articles on senior school grouping.

This paper will examine some of the less commonly measured variables in homogeneous grouping at the intermediate school level.* Previous studies have considered those factors which are more conducive to standard measurement techniques. The trend has been toward the assessment of school achievement as the result of ability grouping, rather than evaluating the personality variables which are also an important part of the grouping process.

Before looking at these variables it is appropriate to consider briefly the advantages which are often stated for the ability grouping program.

1. The extremes of academic ability are removed from the "average" classroom.¹⁰ This removal permits the teachers to concentrate more fully on the relatively similar level of ability which remains in the room.
2. Curriculum adjustments in an overall planning sense are made more feasible by the differentiated classes.^{7, 11}
3. The more able in terms of "giftedness" or high achievement are not restricted or forced to adjust to the lower capacity levels of other class members.^{5, 8}
4. The lower ability group is not subject to personal and group comparisons as the result of a more openly competitive situation.^{10, 11} Hence the "dull-normal" student does not directly lose status when his achievements are viewed against those of other individuals of similar abilities.¹⁰
5. The attitudes of the children towards school improve at both ends of the ability continuum.⁹ It is believed that this improvement in attitude leads to an increase in academic motivation.¹⁰

There are other factors in addition to the stated advantages, which may directly affect the outcome of the grouping process. The authors feel that these secondary factors play an important part in determining the success or failure of ability grouping in a particular school.

What are these factors and what role do they play in advancing

*Grades six, seven and eight.

or limiting the use of the homogeneous teaching methods? These points will be presented as questions, and commented on at this point.

(1) *Is Homogeneous Grouping Actually Possible?*

Comment: The literature on grouping is not all favorable. Some of these same questions were asked in the pioneer studies undertaken in the 1930's. Burr has described the extreme difficulty in even attempting to group children by ability.

Individual pupils are not themselves homogeneous in physical or mental traits, or in achievement in school subjects. An average achievement score represents a mean of specific achievements which may vary so widely that groups relatively homogeneous in terms of average educational age are relatively heterogeneous with respect to achievement in any particular subject.²

Not only are the achievement levels different in different subject areas, but the actual range of abilities in the homogeneous class may be very large. The group tests do not adequately measure the higher I.Q. ranges. They do not sufficiently differentiate between an individual's range of ability in an area, and the modal number of responses requisite for placement in a "high" ability group. Hence the ability group may represent the high achievers, and the socially more adaptive, rather than the actually more capable academically. This may be the product of social class factors operating at the school level. The group test and the "homogeneous" teaching approach may promote the interests of the upwardly mobile parent, and permit the administration the indulgence of "meeting parental needs" without actually determining the distribution of ability within the school setting. In this sense ability grouping may represent social class factors, rather than a real assessment of student capacities.

(2) *Does Segregation By Ability Produce A Positive Feeling For The Individual Students, Or Does It Help To Promote Attitudes Which Are Inimical To A "Balanced" Social Development?*

Comment: Keliher has questioned the use of I.Q. and achievement tests as an acceptable basis for the grouping procedures.

Grouping concerns and affects the whole personality, as does segregation into bright, average and dull groups. Grouping may cause serious attitude hazards which might be investigated further,—so far as one can study the heretofore unmeasured consequences of homogeneous grouping—segregation has dangers for mental health, and therefore, in the light of these dangers,—is not desirable.⁶

Homogeneous grouping on the basis of achievement tests, along with segregated schools for the different levels of academic achievement have long been a part of the European educational approach. The assumptions underlying this pattern of student selection are based in the aristocratic tradition which has characterized European life for centuries. If ability grouping pro-

motes social class differences, then the grouping process needs to be questioned when used at the earlier levels. For the Canadian schools do not intentionally foster classroom arrangements which deny individual worth.

- (3) *Does The Child Become Aware Of His Placement In The "Superior" Or Below Average Group? Does The High Ability Group Tend To Develop "Superiority" Feelings To A Greater Degree Than Would Be The Case In The Heterogeneous Situation?*

Comment: Just as the child becomes aware of social class differences in the early elementary grades, so he recognizes the meaning of ability grouping in the early years. How he reacts to this knowledge in behavioral terms is difficult to say. It is not difficult to estimate the child's feeling of personal worth after he becomes aware of the difference between himself and his classmates. Even when the academic advantages are granted in the homogeneous placement one wonders whether the personal adjustments for the pupils are worth the problems they tend to create. The point is not merely one of academic competence, but also of human competence which is more resistant to measurement. Since personality growth is felt to be of major import in the elementary years, it is at this age that these questions should be viewed as central determinants in the establishment of the grouping program.

In Canada "superiority" is viewed as a many sided quality. One is not superior merely on the basis of academic achievement. While the more academic professors may grind their teeth over this social tradition it is nevertheless is a characteristic of Canadian society. This social tradition in Canadian life has not fostered an élitist social group with similar values and attitudes. In these terms the heterogeneous classroom, in the early school years, promotes greater social understanding and acceptance of the differences between men, rather than increasing the basis for conflict by encouraging an attitude of superiority and inferiority among school children.

It is the impression of the authors that children in the lower groups are well aware of their placement, and tend to feel some resentment toward the higher ability groups.

- (4) *Does The Lower Ability Group Have A Sufficient Leadership Potential In Order To Establish The Necessary Norms For Adequate Academic And Social Behavior In The Classroom Situation?*

Comment: It seems that when the lower ability groups are isolated from the other ability levels, the leadership capacity is

also removed. This absence of leadership tends to create a social and academic vacuum which the teacher is personally unable to fill. The result is that social and behavioral "norms" are very difficult to establish, and control is harder to maintain. The lack of leadership within the room causes a lack of social cohesiveness in the group, inhibiting "self-discipline" in the class, and necessitating a teacher-imposed kind of control.

- (5) *Is There A Tendency For The School's Discipline Problems To Be Placed In The Lower Ability Groups?*

Comment: It is a not uncommon practice in the schools for certain non-academic areas of the curriculum to become depositories for the least capable students. These are favored and non-favored parts of the school program. These areas do not necessarily correspond to the actual ability of a particular child. A given student may be very "bright," but his behavior in the academic classroom is disruptive and unmanageable. He is subsequently placed with the low achievers. The result is that the lower ability groups contain some students who are very able, but are placed there as the result of a system which rewards certain patterns of social behavior. This lower placement serves to reinforce the socially unacceptable behavior.

The behavior problem and the low achiever are frequently placed in the lower group on the basis of marks and conduct which are often interrelated. Once the student develops an image of himself as an "untouchable" in a particular school, his reputation tends to run ahead of him, creating a negative "halo" effect among the faculty. This serves to label his capacities, and make it more difficult for him to actually achieve at a higher level.

- (6) *Is Higher Achievement A Function Of Ability Placement, Or Would The Individual Do As Well In A Heterogeneous Situation?*

Comment: A study by Abramson¹ indicated that ability grouping produced "no significant differences in the grade point averages of students in ability groups and equal students not grouped on an ability basis." His conclusion was that the overall achievement of students, as indicated by a grade point averages and honors, was associated with their level of intelligence, rather than with the particular ability group they attended. A study by Wrightstone reported essentially the same findings.¹²

- (7) *Do Parental Attitudes And Pressures Play An Important Part In The Successful Outcome Of The Grouping Program?*

Comment: Historically, ability grouping has followed a repeti-

tive pattern. It has been socially favored, even demanded by parental pressure groups. Then a period of disenchantment follows when parents are unhappy with the results, for they soon realize that their "Johnny" may be in a lower group, and socially marked as an incompetent child. If the child is poor academically then the parents may also feel inadequate and hostility to the school program may follow. The result is that the program is altered to meet the changing demands of the parents, and finally the intent of the grouping process is lost in adjusting to community pressures.

However grouping may be more successful when the parents are carefully approached and involved in the ability program. This may mean adult education of the more informal type to make the parents aware of the problems involved in the ability grouping process.

(8) *Are Teachers Negatively Affected, Or "Demoralized" When They Remain As Teachers Of The Lower Ability Groups?*

Comment: There does seem to be a negative and "demoralizing" effect upon the teachers who remain with the lower groups for a prolonged period of time. This is caused by several related factors. A socially negative value is attached to the teaching of the lower groups by the teachers in the upper groups. The social "pecking order" in the schools tends to place the high academic groups as the most worthy, and their teachers as the most able in the school. Hence a teacher who continuously works with the low ability group may be ranked as inferior in this status system. Academically the amount of learning is less in the lower group, and the feeling of satisfaction with pupil accomplishment may also be less. The lower groups are more difficult to control and less amenable to standard teaching procedures. This means that the teacher does more work for the same rewards, and receives less prestige in the school's social ranking system.

Hence, unless the teachers are given the opportunity to teach other types of classes they may become unhappy with their situation, and lessen the programs effectiveness. This demoralized feeling may not be a problem for the specially trained teacher whose skills are more highly valued by the other members of the staff.

Summary Comment:

When ability grouping first become popular during the 1920's two of the major pioneer studies suggested that there might be some problems inherent in the process. These problems considered the difficulties of actually grouping children on a homogeneous

basis, and the resulting attitudes of the students placed in these groups. It was also wondered whether consideration was given to the mental health aspects of this kind of grouping, and whether there might be any unmeasured consequences which would be inimical to the best interests of the developing individual. While research on the subject is divided, the popular trend favors ability grouping. Most of the present studies measure academic progress, and seem to be unconcerned with the problems discussed in this paper.

The tendency to accept grouping at the upper junior high level may in part reflect the popularity of this approach in contrast to its lack of acceptance in the elementary school years. This rejection during the early school years has been a traditional feature in a value system which essentially underlies elementary school practice. These values argue that placement is antidemocratic and not in the best interest of the child's personal development. It is felt that personal and emotional growth should take place in a "normative" classroom structure. The assumption is that grouping is a "non-normative" social situation, and that it produces negative effects on the student's personality development. While this assumption has not been established on the basis of empirical research, it has become the "popular" answer for heterogeneous grouping at this level.

In the secondary schools grouping is more commonly found partly because of a different set of values justifying its use. These values argue that "academic" material may be presented more intensively and coherently in the higher ability situation. The emphasis is on academic achievement at this level and not on personality adjustment. These values are not products of research, but rather are part of a traditional approach which holds that if it's "academically oriented" is must be correct.

Grouping as a process has seldom been advanced on the basis of "research." One reason for this is simply that the empirical studies do not clearly evidence a strong position either way. Individual academic progress in the ability group setting does not appear to be any greater than in a heterogeneous group. In addition there are the social and emotional factors which have been presented in this paper. The authors feel that both the academic aspect of achievement, as well as the personal growth factors must be considered when grouping procedures are undertaken.

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LEISURE READING IN THE SENIOR HIGH SCHOOLS OF ALBERTA

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In 1959 a survey of leisure reading in junior and senior high schools of Alberta was undertaken by two members of the Leisure Reading Sub-committee of the Department of Education. The Committee on Educational Research, University of Alberta, provided the financial assistance.

A province-wide survey of high school leisure reading was therefore undertaken by means of two questionnaires, one sent to all the teachers of high school leisure reading in the province, and the other to a proportional sample of approximately 10% of the students in grades seven to twelve.

The responses, approximately 1,100 from teachers and 7,700 from students, were transferred to IBM cards. The data from the junior high schools were analysed by Mr. R. R. Fisk, and, in 1961, accepted by the University of Alberta in partial fulfilment of the M.Ed. degree. The data obtained from the senior high schools, separate but complementary to that of Mr. Fisk, forms the material of this article.

General Purpose

The purpose of the survey was to show the strengths and the weaknesses of the Alberta high school leisure reading program as they were reported by the teachers and the pupils engaged in that program. The investigator wished to discover as precisely as possible what books senior high school students were reading, whether the Department of Education objectives in leisure reading were being met, and, in general, what attainment was being made in high school reading.

Hypotheses

The investigation centered around five specific hypotheses:

1. Students' attitudes and behaviours are affected by their leisure reading.
2. The leisure reading program can be implemented in various ways.
3. Various observable factors affect leisure reading accomplishments.
4. Leisure reading accomplishment varies greatly.
5. Changes are necessary in the present leisure reading program in Alberta.

Areas of Investigation

The students' questionnaire did not elicit data on the students' abilities (I.Q. ratings), their background, or the library facilities of their schools, but it did obtain information of the type of school attended, the age, grade and sex of the respondents. The teachers' questionnaire obtained extensive information on teaching methods, and the teacher's evaluations of student achievement and of the leisure reading program. The sex, the teaching experience, the knowledge of books and library facilities of the teacher respondents were secured also.

Procedure

The first instrument used contained fourteen questions on such aspects of the students' leisure reading as: student reading interests, factors affecting reading accomplishment, reading habits, gains from, and improvements necessary in the established leisure reading program. The second instrument was composed of thirty-two questions on aspects of leisure reading within the knowledge of teachers. After pilot studies had established the suitability of the two instruments, the student questionnaire was sent a representative sample of about 10% of all high school students in cities, towns, divisions, villages and rural areas; and teacher questionnaire to all teachers of leisure reading in the province.

The findings from each questionnaire were presented separately. From the 3,500 replies of students of the senior high school 1,000 were chosen at random. These responses were tabulated and discussed generally according to the type of school the students attended: Type A—city schools with population of 500 and more; Type B—schools with population from 100 to 499; Type C, population 50 to 99; Type D, small schools; and Type E, Roman Catholic Schools. Additional findings were tabulated and discussed under grades (and ages) and sex.

The responses from all the teachers were tabulated and discussed under three general headings: methodology in leisure reading, evaluation of student achievement, assessment of the leisure reading program. As teachers' experiences seemed to produce more variation in response than differences in sex, knowledge of books, library facilities, etc., this factor was presented at greatest length.

Findings

From the Students' Questionnaire

Findings According to Type of School. High consistency of responses from the students attending the five types of schools was obtained. A few conflicting opinions were noted, however. As the sample by schools was randomly and proportionately selected from

across the whole province, the following generalizations seems to be valid regarding the leisure reading abilities, habits, requirements of senior high school students.

High school students require (but do not desire) adult guidance in choosing books and types of literature. More can be gained from a guided leisure reading program than is presently realized.

The influence of mass media of communication (television, moving pictures and advertising in magazines) with their emphasis on crude types of realism is making some impression on senior high school students. This influence varies considerably from school to school but it is not in any case great,—far from devastating as some writers would imply.

Library facilities, which vary greatly across the province, seem to be inadequate to supply the wide reading requirements of senior students.

Reading preferences seem to be firmly entrenched across the province.

Though reading appears not to be a habit with Alberta youth, it competes strongly with other kinds of recreation and with numerous distractions for a share of the students' time. The students on the average claim to read seventeen books per year.

Classics seem to have maintained favor with students in Alberta schools, in spite of suggestions in the related literature that they are not always regarded as suitable for some United States students.

Findings According to Grades and Ages. Clear evidence was obtained that most students in reading show a definite growth toward maturity; nevertheless many do not form the habit of reading better-quality novels. They prefer sports and mystery stories and lighter magazine reading. But the trends toward maturity, which are itemized below, seem to outweigh the opposing tendencies.

As the students become older, a preference for books featuring adult rather than juvenile heroes is evident.

With increase in age a decreasing interest in stories and books of love, hobbies, careers, personal problems, Western adventure, fantasy, animals and science is evident.

A slight increase in interest in plays is evident, especially from age sixteen on.

Though a decrease in the number of books read per year after age sixteen is noticed, this trend is probably the result of greater demands made on the students by employment and by high school work.

As the students grow older, a decrease in interest in comics, movies and television is noticed.

"Thrills" from reading appears to give way to "curiosity," as the students advance through high school.

A maturer attitude to teacher influence, and to writing book reviews seems to develop as the students grow older.

A desire for "adult" books and for books adults read seems strongly evident among older students.

With increase in age reading appears to become more a hobby, a habit, a fixed and regular recreation.

Powers of evaluation and literary appreciation appear to increase with age.

Less identification with the heroes of novels seems to occur as the students approach maturity. This tendency may be interpreted to mean that the readers regard the novel as a work of art.

As the students get older, a growing interest (or a contemporary interest) in travel seems to develop.

Among the older students not much interest is shown in respite or escape literature.

For the older students reading appears to be done because of its value, not because it is expected of them or because it thrills them.

Findings According to Sex. Marked differences were discovered in the male and female attitudes to books and to the leisure reading program. But just as many, or more, close correspondences between the responses of males and females to each question of the questionnaire were noticed. Following is a summary of the main differences and the main similarities according to sex.

(a) Differences

Non-fictional books about occupations and about grooming or personal appearance rated high with girls, low with boys. Descriptions of war and conquest, and explanation of invention and scientific discoveries were much preferred by the boys but were uninteresting to girls.

Love stories, tales of personal achievement and career stories were preferred by the girls, but disregarded by the boys. They, in turn, liked sports stories and science fiction, which the girls did not care for.

Boys preferred essays to poetry and plays; girls showed the reverse preference.

Girls, apparently more avid and more mature readers than boys, reported reading to be a pleasure in slightly higher percentages. Boys, in greater percentages than girls, asserted that reading was not a pleasure. It would appear that girls like a passive recreation and that boys prefer activity.

Boys appeared to read for the purpose of gaining information on such topics as their hobbies, or to satisfy curiosity. Girls more often than boys appeared to like to identify themselves in various ways with the characters or situations in the novels they read. It appeared that boys hoped for practical values from their reading; girls were more apt to look for artistic values or for opportunities to identify themselves with people in literature.

It must be noted that the labels "boys" and "girls" do not clearly distinguish two separate categories of readers. Some boys are not typically "boyish" and many girls are not unreservedly "girlish".

(b) Similarities

On almost all of the general aspects of leisure reading,—the methods of choosing books, the difficulties encountered in completing the leisure reading requirements, students reading habits, and their reasons for reading, the gains from the leisure reading program, and the improvements they suggest—boys and girls showed a high degree of agreement. For example, all preferred magazines to poetry and plays. Again, they agreed, within half a book per student per year on the number of books read per year. And a similar percentage of boys and girls stated that they like leisure reading.

From the Teachers' Questionnaire

The survey was based upon the opinions of over three hundred teachers, of both sexes (equally), working in all types of schools. They had varying amounts of experience; half of them had taken University English courses and some had read widely. Some worked with quite elaborate library facilities, others with quite inadequate supplies of books. Their responses to all questions on the questionnaire showed a high degree of consistency.

In methodology the teachers preferred a controlled or directed program to a "free" leisure reading program. They encouraged and urged but did not care to force their students to read. They checked their students' leisure reading accomplishment quite closely, most frequently by means of written book reports, which dealt both with the structure and the literary values of the books. Teachers preferred to use informal advice and casual recommendations rather than more direct or obvious forms of motivation.

Teachers seemed to agree, with some reservations, that student accomplishment in leisure reading was quite good; but they also believed that more could be accomplished. The objectives of the leisure reading program were, according to the majority of teachers, being met by a majority of the students.

Teachers similarly agreed that the program itself was generally

satisfactory. They appeared to know their students' reading interests; they saw definite gains accruing from leisure reading, but they recognized many minor problems still to be solved if a highly effective program is to result. It appears that they recognized many of the factors which will (or should) produce improvement in leisure reading in Alberta high schools. Furthermore, they seemed willing to accept help or suggestions if aid were made available.

Areas of Agreement between Students and Teachers

Not only were the students' and the teachers' response consistent within themselves, but, where parallel information was sought from each group, students and teachers, answering quite independently, agreed on many aspects of leisure reading. The teachers, for instance, agreed with the students on the type of fiction and non-fiction that they, the students, favored. Both teachers and students made the strongest plea for more books. In fact, both groups stated that a successful reading program could hardly be conducted unless the number of books available in school and classroom libraries was increased. Teachers believed that students were gaining vicarious experience of life from their leisure reading; the students, in turn, reported that they gained knowledge of other people and other places. The teachers reported that students were improving in reading skills. The students, similarly, reported that, though they did not believe that they were gaining greatly in literary appreciation, they were improving their knowledge and their reading ability.

The difficulties in leisure reading reported by students paralleled to some extent the problems and adverse effects reported by the teachers. For instance, both groups reported that the demands of school work and home duties, of other forms of recreation and the effects of distractions caused students most difficulty in their leisure reading.

Approximately 90% of the students reported that reading was a pleasure to them. About 70% of the teachers reported that over half of the students found reading "definitely pleasurable". Teachers further reported that most of the students "benefit considerably" from the leisure reading program, a claim that was corroborated by the students.

It appeared that students and teachers agreed that the leisure reading program was of benefit. They seemed, further, to agree that the program was largely satisfactory, though this agreement was merely implied in teacher and student responses as a whole. No sweeping claims of benefit or satisfaction were made by either the student or the teacher groups. In fact the claims were moderate and modest. A small percentage of both teachers and students dis-

agreed with the more commonly reported opinions, but teachers and students were in agreement rather than in opposition on all general aspects of leisure reading.

Conclusions

In terms of the "General Purpose" mentioned above, the following conclusions seem warrantable from the data of the study.

The students of the senior high schools of Alberta are reading quite widely, and are profiting from the time spent in leisure reading. They report that they read an average of seventeen books per student per year. The students recommend hundreds of books from the reading lists and hundreds more not on the reading lists. Teachers, assessing the students' accomplishment, report that the students on the average meet about 75% of the Departmental requirements.

Partly because of these requirements but partly of their own volition, Alberta high school students accept reading as a regular recreation, though the demands of work and amusements compete with it strongly for student attention.

A great variety of books is being read by students. Many adult books, book condensations for adults, paperbacks and junior novels, those listed in *Invitation to Read* and many others found elsewhere, were recommended by students. Many of the books listed in *Invitation to Read* did not appear to be popular among high school students.

The objectives of the leisure reading program as stated in Department of Education bulletins are being achieved by the majority of the students according to the report of the majority of the teachers.

It appears from both teacher and student responses that a good deal of value is accruing from the leisure reading program.

The objectives of the Alberta leisure reading program seem, judging from the tenor of the students' and the teachers' responses, to be reasonable and attainable.

The leisure reading program appears to be improving the mental and affective processes connected with reading.

In terms of the "Hypotheses" mentioned above, the conclusions of this study partially support Hypothesis 1 and strongly support Hypotheses 2, 3, 4 and 5.

Some conclusions arising from Hypothesis 5 (changes necessary in the leisure reading program) and some arising from findings throughout the investigation may be of interest. For instance, the gap which appears to exist between junior and adult novels did

not appear to be adequately bridged either by books from the approved list or by other books discovered by the students. Though the junior novels listed in *Invitation to Read* were frequently read by senior high school students, there were indications which suggest that they are somewhat insipid and stereotyped. The harsher realism of war stories and modern psychological studies of maladjustment seemed to appeal more strongly to students than did the simpler, milder junior novels to be found in school libraries.

Many more books and many more titles were, of course, badly needed in school libraries.

More guidance was required in the selection and study of books for Alberta school libraries. The teachers indicated by their responses that more care was required in the selection of books listed in *Invitation to Read*. Better annotations, and grading of books according to difficulty were also necessary.

Teachers' opinions support the conclusion that further restrictions within the program are unwarranted. The middle ground between a completely "free" program and a completely prescribed program seems best, and the Alberta program lies somewhere in this region.

To increase the quantity and to improve the quality of books read by students, and to increase teachers' enthusiasm for the program, the provision of more books and better school library facilities seems mandatory. Many new books and many new attractive editions of the classics and the "older" books are constantly coming on the market. However, even when money is available, it appears to be hard to get these books into school libraries. Only a small committee, meeting one or twice a year, recommends new purchases to the School Book Branch, which publishes *Invitation to Read*. Though teachers and librarians may order books from other lists, this practice is seldom followed.

As many school libraries appear to be woefully short of "newer" books, some sort of special or equalization grant seems necessary to raise the quality of some school libraries. Only by making reading as attractive as the other forms of student recreation can educators hope to have it retain its favor with high school students.

It appears that, though many Alberta teachers are adequately prepared to administer the leisure reading program, many others are deficient in book knowledge and a background of English literature.

School librarians, working in central school libraries, seem to be required in many more schools in Alberta.

As no single method of dealing with leisure reading can possibly be of much value, it can be concluded that teachers must constantly

devise methods that suit both themselves and the students they teach. *The English Journal* and other professional publications contain many hints of methodology, which are likely to be helpful to both the experienced and the inexperienced teacher.

As students frequently rely on *Invitation to Read* as a guide to book selection, one concludes that much effort should be exerted to make this pamphlet as useful as possible. It appears to require even more careful yearly revision than it now receives, and it must have better annotations.

As the students' accomplishment in leisure reading seems to have been commendable, the teachers who have guided and encouraged the students can feel that their efforts have been worthwhile.

The compilation of a guide or handbook to leisure reading as an aid to teachers and students seems desirable.

Recommendations

The following recommendations seem to follow from the above conclusions.

1. It is recommended that five, and ultimately seven, titles per student be the minimum quota of leisure reading books in each school library. These books should be "modern", and "classics" and "school classics" in current editions.

2. It is recommended that all leisure reading teaching personnel obtain credit in two or more University English courses and/or library science courses.

3. It is recommended that many more senior high schools plan to acquire a central library under the charge of a full-time librarian.

4. It is recommended that a central library committee be instituted to work continuously on book lists, annotations, grading of books, and suggestions that will help school libraries to make leisure reading constantly more appealing.

5. It is recommended that an annual report of library facilities in each senior high school of the province be required by the Department of Education.

6. It is recommended that all schools institute or consider the inauguration of a developmental reading program for all high school grades.

7. It is recommended that no more (and no fewer) restrictions be placed upon students' leisure reading.

8. It is recommended that the leisure reading program remain "open at the top" so that able students will be encouraged to read widely, and to write and to speak about books and authors intelligently. Though more demands can always be made at all levels of student ability, teachers will have to judge the point at which excessive demands will reduce student interest, pleasure and profit from leisure reading.

9. It is recommended that a handbook to leisure reading be prepared.

10. It is recommended that the study of leisure reading be extended to include information from other Canadian provinces.

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H. E. Smith